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ORAL SEPSIS AND ITS RELATION TO DIAGNOSIS.*

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Oral sepsis is a subject of much importance from a diagnostician's point of view. It is a condition that cannot be overstressed from the viewpoint of study and investigation. The mouth is a culture media for flora which under proper conditions is far reaching in its destructive effect upon the organism. Our present knowledge of the flora of the mouth, as related to specific affections, is fairly well outlined.

The harmonious and scientific co-operation of the dentist and the physician along bacteriological, pathological and diagnostical lines in the study of oral sepsis, is a fact to be applied in the very near future. The physician should not be ultra-conservative nor yet too presumptuous in his examination of the mouth. In this, as well as in any other part of the organism, every diagnostic method should be applied. A wrong diagnosis in a mouth condition is just as disastrous as in any other affection.

The chief infections within or about the teeth are: (1) Infections producing pyorrhea (so-called); (2) Gingival septico-pyemia; (3) Abscesses and necrosis in the jaw, or at the tips of the roots.

The mouth is the habitat of many bacteria. Some bacteria are non-pathogenic, others pathogenic. The number and variety depend upon the condition of the mouth.

There are two classes of organisms usually found in the mouth. The first class, *protozoa*, represented by the ameba, is an unicellular *animal organism*. The second class, *bacteria*, are unicellular *vegetable organisms*, represented by (a) cocci, such as staphlyococcus, streptococcus, pneumococcus, etc.; (b) bacilli, such as the subtilis and pneumobacillus; (c) spirillum, such as the spirochete.

The ameba was recognized as occurring in the mouth by Gross, in 1849. Since that time various names have been given to ameba inhabiting the mouth, but all probably identical with the *entamoeba buccalis*. It is argued by some writers that the *entamoeba buccalis* is an etiological factor in caries, while others doubt that it really plays any active part in oral sepsis. Grossman maintains that, notwithstanding the fact of convincing arguments to the contrary, there is no doubt that in a certain number of cases the ameba does play an important role in the pathological conditions. Whether it produces this lesion alone or in conjunction with other organisms he is not able to determine.

A simplified method of examination of material for ameba is as follows: Take

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a warm, clean, glass slide upon which has been placed a drop of warm physiological salt solution and mix with it some of the material obtained from the pathological lesion. The film should not be too thick. The smear is then examined under the microscope. Should a stained specimen be desired, cleanse the area about the teeth and gums with a swab saturated in fifty per cent ethyl alcohol, and with a sterile platinum loop scrape the material from the margin of the gums, then smear lightly over a clean glass slide. Fix the smear with a few drops of methyl alcohol, and apply Giemsa's stain.

The predominating varieties of bacteria found in pyorrhea in the superficial pus pockets are the streptococci, diplococci, staphylococci, bacilli, spirochetes, in various sizes and strains. Pus taken from the deeper areas show that the streptococcus and staphylococcus group predominate. The streptococcus viridans and streptococcus hemolyticus can be demonstrated in almost every case. Frequently staphylococcus aureus and albus, bacillus fusiformis, micrococcus catarrhalis, and a diphtheroid bacillus are isolated.

The findings of Ulrich in an analysis of six hundred cases show that about 68 per cent of all artificially devitalized teeth were found with apical abscesses. In one hundred and fifty-nine cases having bacteriological examinations, one hundred and seven cases demonstrated streptococcus viridans, and fifty-two streptococcus hemolyticus predominating.

It was found in this series that, almost without exception, the alveolar abscesses were found in devitalized teeth. The devitalization had occurred either through caries with involvement of the pulp canal, or through artificial devitalization in preparation for fillings, crowning, or bridgework. Imperfect dental asepsis is also given credit for subsequent infections.

This analysis shows in a most graphic way the clinical manifestations due to streptococcal focal disease and may be classified as follows:

1. *Rheumatoid*, a class of cases which show conditions such as arthritis deformans, rheumatoid arthritis, neuritis, and myositis with or without cardiovascular involvement.

2. *Cardio-vascular*, a class of cases which are characterized by heart lesions or hypertension without evidence of rheumatoid conditions.

3. *Asthenic*, a class of cases characterized by joint and periarticular pains, muscle or nerve pains, amplified by asthenia, anemia, albuminuria, and myocarditis.

4. *Gastrointestinal*, cases in which gastrointestinal ulcers, acute enteritis, gall-bladder, or pancreatic symptoms are revealed.

5. *Genitourinary*, a class of cases with rheumatoid pains, and renal, bladder, prostatic, or vesicular involvement.

6. *Streptococcus focal infection* complicating anemia, tuberculosis, syphilis, or other systemic disease.

Goadby was one of the first to point out the relationship of dental infections to joint affections, and was probably a pioneer in demonstrating this relationship. Rosenow, in his work on focal infections, has isolated the streptococcus from affected joints and neighboring glands. He has shown that there is a close relationship between focal infections and arthritis.

The spirilla have been isolated in enough cases to justify its addition to the bacteriology of the mouth. The *treponema pallidum* is frequently found. Noguchi has isolated two varieties of organisms from pyorrhea which he calls *treponema mucosum* and *treponema microdenticum*. These spirochetes develop rapidly in an inflammatory condition of the gums. They are not pus-producing organisms, but are in the class of infectious granulomata as leprosy and tuberculosis.

At this point I desire to call your attention to a fact that in the very near future will be brought clearly to the minds of the medical and dental professions. I refer to the mutation of bacteria under certain conditions. In the above paragraphs

much has been said about the organisms that are found in oral sepsis, yet nothing about the mutability of certain bacteria. Last year before this section I reviewed briefly my work on mutation of bacteria setting forth the change that infectious micro-organisms may undergo in the course of certain diseases. In an article on "Gingival Septicopyemia," published in 1918, much stress was placed upon streptococcus infection of the gums, more especially the hemolytic type. The streptococcus will change from a mild type of infection in the robust individual to a virulent infection when the resisting power of that individual has been greatly lowered. That is why a pyorrhea alveolaris, traumatism, gingivitis, and alveolar abscess may in a few days, or even hours, become a virulent infection.

It is the consensus of opinion that the streptococcus assisted by its worthy allies is the most serious offender in oral sepsis.

The discussion of the symptomatology of oral sepsis must of necessity show its relationship to the general health. There are very few persons of forty years or over who show advanced cases of oral sepsis that are normal physically. It has been shown that persons over forty or fifty who have perfect teeth are, to a surprising degree, free from chronic disease. People who have worn false teeth for a number of years have accordingly much better health than those of their age who have dental sepsis.

The local manifestations of oral infections such as gingivitis, decay, tartar, pyorrhea, alveolar abscesses, and defective dental work is familiar to most if not all of you and a minute description of them is unnecessary. There are, however, two common affections that should be remembered, i. e., blind abscesses, and imperfect root canal fillings. An x-ray picture is, as a rule, necessary in diagnosing these conditions. It has been demonstrated that imperfect root canal fillings cause a large proportion of blind abscesses (Duke).

The systemic manifestations as a result of caries, alveolar abscesses, pyorrhea, and other bacterial processes, lead to disease at a distance from the oral cavity in one of three ways, or perhaps in all: 1. The lymphatics. 2. Absorption of toxins and bacteria directly into the blood stream. 3. The swallowing of pus containing toxins and bacteria.

The symptoms to be discussed intelligently should be grouped under the various systems which they most frequently attack.

The *digestive system* is affected by such conditons as dyspepsia, flatulence, septic gastritis, gastric, and duodenal ulcers. There is often gall-bladder and pancreatic symptoms, and acute enteritis attributable to the enormous number of bacteria swallowed.

The *arthritic group* of symptoms have been fairly well systematized and a diagnosis should be made early in most cases. An early diagnosis with the institution of early treatment will prevent the deformities and suffering of these unfortunate persons. In this group of cases are found neuritis, myositis, rheumatoid arthritis, and arthritis deformans, with or without cardiac involvement. The parts most commonly affected are the muscles of the neck, the mandibular joint, the fingers, the shoulders, the knees, and the metatarsophalangeal articulation of the great toe. When the disease is of dental origin it is characterized by remissions and exacerbations. Days, weeks, or months may intervene between attacks. The attacks as a rule grow gradually worse. There is slight fever, if any. The joint slowly enlarges, is painful, movement exciting neuralgic pains. There is connective tissue hyperplasia about the joints and tissues, which eventually leads to nodules on the sides or ends of the distant phalanges (Heberden's nodosities). Redness and tenderness are wanting. The muscles of the affected limb waste, giving the joint a greatly hypertrophied appearance. Crepitation is distinct after ulceration has destroyed the articular surfaces.

The *nervous symptoms* may manifest themselves as choreic and epileptic attacks, or as tic, stammering, stuttering, restlessness, irritability, insomnia, mental derangement, and neuralgias.

Cardiovascular symptoms may manifest themselves in some form of arythmia, anemia, endocarditis, myocarditis, and arteriosclerosis.

Respiratory symptoms are often exhibited due to intense bacteremia causing partial respiratory paralysis. Septic sore throat, acute or chronic bronchitis, asthma, infarct of the lung, pulmonary hemorrhage, and septicemic forms of pneumonia may be traced to a septic condition of the mouth.

Many *diseases of the skin* such as urticaria, erythema, acne, eczema, seborrhea, herpes, and purpura may be manifestations of oral infections.

Such conditions as retropharyngeal abscess, otitis media, ethmoiditis, mastoiditis, and infection of the antrum are very frequently the result of oral sepsis. Foot and mouth disease and mercurial stomatitis are not, strictly speaking, due to oral sepsis.

A review of these systemic manifestations should impress upon your minds in the strongest manner possible the many diseases that oral sepsis may cause or be associated with. When by the process of elimination you have excluded every source of infection and even in the mouth you find no evidence of disease on inspection, do not make your diagnosis until you have employed the x-ray.

Talbot, recently, in discussing focal infections points out the necessity of bearing in mind the seriousness of these conditions as affecting pregnancy. He relates his experience and maintains that all known foci of infection when associated with pregnancy should be removed.

The writer's attention was recently called to an article in which the case, simulating in every respect locomotor ataxia and exhibiting the typical girdle pain, immediately cleared up on the removal of several carious teeth.

A case of encephalitis lethargica in a man 32 years old came under my service some time ago. He was smitten with the lethargic complications while convalescing from acute enteritis. He slept most of the time for six weeks. After removal of two abscessed teeth that had infected the left antrum, he began to convalesce and made a good recovery.

A few weeks ago I was called in consultation to see a patient of 45, and, by the way, one of Oklahoma's most famous jurists. The history revealed that he had been treated for five years by two eminent physicians for gastritis. He had grown progressively worse until he was moribund. Briefly, I shall describe to you what happened in this case. Six years ago the patient's teeth became carious, gingivitis and pyorrhea developed. The x-ray did not reveal any apical disease. Hence, it was inferred that no great amount of absorption was taking place. In fact, absorption was taking place and amyloid degeneration of the kidneys, liver, and high blood pressure developed. Gingival septicopyemia was the finale of this man's life.

While some physicians are too conservative, others are too hasty in arriving at a diagnosis, or better say, conclusions. Another case, a woman of 55, was very nervous, had flatulence, constipation, headaches, insomnia, and gradual loss of weight. All her illness was attributed to the teeth. The teeth did not show any marked pathological condition but were extracted. Two years had elapsed, yet she was not relieved. Ten weeks rest in the recumbent position with the abdomen strapped to support the viscera relieved the gastroptosis. The recovery was rapid.

Teeth should be x-rayed before and after treatment. Diagnosis based upon x-ray studies alone is unwise, since many conditions may or may not exist which are not shown. The local and clinical features should be studied with extreme caution and care observed in ascribing a systemic infection to the mouth condition. Bacteriological study in oral sepsis should always be a part of the diagnostic procedure.

Gentlemen, I shall call your attention to a few words of warning and admonition. Beware of the influence of propaganda of focal infections. Our learned profession has often swung the pendulum beyond the plumb line of reason. In

years gone by, bleeding was performed for every ailment from ingrown toenails to prolapse of the uterus. Colons of epileptics short circuited for lack of insulation. Appendices removed to prove that the human race had little claim to prehensile tailed ancestors. Tonsils snared indiscriminately to lessen voice culture and the ovaries evulsed to promote race suicide. I have, however, always maintained that prevention is better than cure. I do not believe in the universal removal of tonsils in children after a certain age. Neither can I agree with the exodontist who believes that the removal of all the teeth in children of a certain age will free the rising generation of all the ills that flesh is heir to. I do now, and ever after, protest against the too free use of organic mutilation as a panacea for human ills. I do, however, believe in sane, sensible, scientific diagnostic co-operation of the physician, radiographer, bacteriologist, and dentist.

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DISCUSSION.

Dr. Ellis Lamb, Clinton: I have not viewed the paper or given the subject very much personal thought but I am very much interested in the paper and will say this, that in our oral infection we have very much in common with our chronic cases of indigestion. We have very much to do in common with our cases of chronic gastritis, followed subsequently by our gastric ulcers. Furthermore, we have a great variety of diseases following oral sepsis and following tonsil infection. I have noticed a train of symptoms; notably the gall-bladder infection seems almost invariably associated with our root abscess. Furthermore we have it proven by Rosenow and others, for we have for years past had a goodly per cent of our cases of appendicitis come from our root abscess, where the pus causes pressure in the root canals. In doing a little x-ray work on the diagnosis on the oral sepsis, and particularly the abscess, we find it is notable in all these cases. In my opinion in all cases of arthritis, endocarditis and muscular rheumatism, we should not be satisfied looking at the throat but should make every endeavor to find where it comes from. We should look at the teeth with the x-ray.

Dr. Dutton: Mr. Chairman, I do not have a great deal to say in closing. I want to say this, that the subject is a broad one. The paper deals with the subject more in outline than in detailed discussion. I would like to add this—that I believe the general practitioner will be well repaid if he advises the patient to have the teeth x-rayed before and after treatment. The x-ray is a wonderful adjunct in oral conditions. That is the point I wanted to emphasize the use of x-ray before and after treatment.

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DENTAL SURGERY AND ORGANIC HEART DISEASE.

P. J. Calvy, Fond du Lac, Wis. (*Journal A. M. A.*, May 1, 1920), cites cases in which an existing heart affection was made worse by extraction of teeth. He ascribes this to lack of drainage of the infected area, such as an apical abscess. After extraction, the tooth socket is filled with a firm clot of blood which precludes drainage and affords an ideal soil for the rapid growth of bacteria; and the traumatism to the structures around the tooth greatly increases the opportunity for absorption. It is under such conditions that there is a rapid rise of temperature, increased pulse rate, and an acute attack or exacerbation of a chronic trouble, as exemplified by the history in two cases cited.

SCARLET FEVER.*

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Three years ago it would have seemed superfluous to address a meeting of this character on the subject of scarlet fever unless it were to disclose a specific cause or cure, but the experience of many since then has indicated the desirability of reviewing the established facts more frequently than has been customary.

If, in considering the infectious diseases we think of pneumonia as "Captain of the Men of Death," as did the illustrious Osler, we must think of scarlet fever as "The Most Baffling of Exanthemata." It more frequently eludes us than any of the other contagious diseases.

OCCURRENCE.

This disease, first clearly differentiated from similar exanthemata by Sydenham, has been known for many centuries. Asia and Africa have remained relatively free of it; Western Europe has been its most fruitful soil; the Western Hemisphere was free of scarlet fever until 1735, when it first appeared in Massachusetts; it took ten years for scarlet fever to spread over the New England States and nearly fifty years to spread over all of the United States; a century elapsed between its first appearance in North America and its introduction to South America. Since 1840, sporadic cases have been constantly present in most of our communities and at irregular intervals it assumes epidemic form, the epidemics lasting from one to several years.

Our Southern States so far have been affected much less than the North. The factors governing the geographical distribution and epidemic cycle, like the specific cause, are unknown. The seasonal incidence of this disease varies somewhat in different countries, as a rule it is most prevalent in autumn and winter. If our knowledge of contagious diseases in general, and the history of scarlet fever, may be taken as guides, we may expect scarlet fever to assume epidemic form at least once in each decade, and to show a larger proportion of sporadic cases in our cities as they grow unless the practice of preventive medicine progresses in proportion to our increase in population.

CLASSIFICATION.

Scarlet fever is an infectious disease caused by an unknown organism. It is contagious, but less so than smallpox, measles, or diphtheria. Its distinguishing features are abrupt onset, continuous fever, angina, and punctate scarlet rash that tends to cover the entire body; its chief characteristic is the irregularity in intensity of each of these distinguishing features, and of the disease as a whole.

TRANSMISSION.

The work of observers too numerous to mention has established the fact that the specific cause of this disease is transmitted directly in the majority of cases by nasal and buccal secretions, and that these secretions are infectious from the beginning of the disease well into the period of convalescence. It may also be transmitted by fluid or pus from the nose, and suppurating foci complicating or persisting as sequelae of the disease. Milk-born epidemics are not uncommon. McMalcom and Place have cited instances showing that one-half hour intimate contact with a scarlet fever patient is sufficient to produce infection; that one and one-half hours spent in the same room with a scarlet fever patient, but not in contact with the patient, has resulted in infection. The belief that utensils and clothing of scarlet fever patients may transmit the disease for a long time, has lost most of its importance but has not been entirely discredited. It is generally believed that scarlet fever is perpetuated by persons having mild unrecognized cases

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and those with nasal discharge or other sequelae. Few now believe in transmission by desquamated epithelium. Fifteen years ago Osler thought little of transmission through a third person. In the fifth edition of his Practice, he speaks of knowing of one such transmission and only one. There is no evidence of this being an air-borne disease outside the sick room. To these observations I wish to add several of my own: (a) transmission by carriers; while most writers do not mention this or do so to belittle it, I have observed at least one such occurrence and probably several; (b) under conditions most favorable to transmission by a third person, I have been unable to discover such; (c) under conditions very favorable to transmission by clothing, I have been unable to discover a single case so acquired; (d) I know of no more impressive example of the relatively slight degree of contagiousness of this disease, also of its persistent nature, than that afforded by the epidemiological occurrences at Fort Sill during 1918 and 1919, much of which has been published. Within a few months after the mobilizatoin of the 35th division, diphtheria became epidemic and most elaborate measures were required to control it. In less than six months from the time of mobilization one-third of the men were diphtheria patients or carriers. Twenty-four hours after the first case of influenza was admitted to the hospital during that epidemic, one hundred cases developed in camp, and within a few weeks there were 2000 cases, this in spite of the most careful observation of preventive measures for weeks prior to and throughout the epidemic. Scarlet fever was endemic in camp for months, yet there never were as many as fifty cases at a given time and spread of the disease from regiment to regiment did not occur.

ETIOLOGY.

As to a specific cause of scarlet fever there are three theories: streptococcus, protozoon, and filterable ultra-microscopic virus, the first being the most seductive. The most suggestive evidence brought forth in support of these theories may be briefly summarized as follows: since Floyd obtained cultures of streptococci from the blood in 20 per cent of a large series of cases in the Boston City Hospital, numerous investigators have regularly done so in severe cases. Tunnecliff found opsonic index for streptococcus low very regularly during scarlet fever with an increase coincident with recovery. Duval and Mallory later reported the occurrence of round and oval, granular, protozoa-like bodies, usually $2n$ to $7n$ in diameter, occasionally twice as large, regularly present in affected areas of the skin. Benhardt produced the disease in monkeys by injections of filtered serum removed from scarlet fever patients. Whatever the specific organism inaugurating this disease, streptococci usually play a more or less active part, frequently the dominant role in the production of symptoms and pathological changes.

PATHOLOGY.

Much has been written on the morbid anatomy of this disease that cannot be discussed here. The clinical pathology, like everything else related to scarlet fever, has as its chief characteristic irregularity and this must be constantly in mind at the bedside as well as in the consideration of group descriptions; no better example of this can be presented than the observations of different skilled clinicians; Osler states, "The spleen is often enlarged, endocarditis and pericarditis are not infrequent. Myocarditis changes are less common. The renal changes are most important. Affections of the respiratory organs are not frequent." McMalcom and Place tabulate the complications of scarlet fever in order of frequency and gravity as follows; "bronchopneumonia, inflammation of the middle ear, suppuration of the cervical lymph nodes, pleuritis, inflammation of the antrum of Highmore, abscess, acute interstitial nephritis."

The angina common to scarlet fever is intimately associated with streptococci; the tendency to development of nephritis in all cases and its frequent occurrence are constant factors that should govern the plan of treatment in aberrant cases and scarlatina benigna, as well as the more severe and complicated cases. In

septic and toxic cases, the clinical pathology is that of severe streptococcic infection with streptococcemia. The angina is generally streptococcic but the well known hypersusceptibility of scarlet fever patients to diphtheria suggests the desirability of a Shick test and throat culture in every instance. The occurrence of a complication or complications is evidence of the migratory tendency of the infecting streptococci.

TYPES.

Typical scarlatina benigna and septic and toxic scarlatina are rarely unrecognized or mistaken and need no discussion here. Aberrant scarlet fever is most deserving of attention. These cases are quite as numerous, if not greater in number, than typical cases. They are more frequently unrecognized than discovered and treated, and are probably the greatest factor in perpetuating the disease. They may for convenience of description be divided as follows: (a) scarlatina sine eruptione; these cases are frequently mistaken for mild, moderate, or severe tonsilitis; (b) extremely mild cases with slight or no prodromes, mild fever and sore throat of short duration, and faint transitory rash; (c) cases in which the rash is coincident with that of measles or chicken pox; (d) fulminating scarlet fever.

DIAGNOSIS.

While this is a disease of abrupt onset, nevertheless slight malaise and indisposition lasting from one to four days occurred in 28 per cent of cases I have seen. Caiger observed vomiting at the time of onset in 80 per cent of cases, not infrequently accompanied by diarrhea. The temperature begins to ascend with onset of symptoms and continues to rise until the rash is fully developed. The elevation is as a rule proportionate to the severity of the attack, its continuance the same, and terminates by lysis. Inflammation of tonsils and sore throat is the most constant symptom even before appearance of the rash; this was the first sign of the disease and preceded the rash from one to four days in eight out of 54 adults who developed typical scarlatina benigna. The development of the rash on the first or second day of the disease is one of the distinguishing features, yet there are numerous exceptions, its appearance delayed until the third, fourth or fifth day after onset of symptoms. Appearance of the rash on the first or second day facilitates the diagnosis of scarlet fever, a delay in its appearance should not, per se, mitigate against it. The characteristics of this rash most helpful in the diagnosis and differentiation are: bilateral distribution, frequent accentuation on the inner surfaces of arms and thighs, in the axilla and groins; freedom of the face except for a blush-like erythema of the cheeks; its tendency to appear first on the chest, involvement of the palms of hands and soles of feet. In appearance, the rash of scarlet fever varies according to the severity of the attack. In mild cases it may be nothing more than a faint blush, limited to the axilla or sides of chest, axilla and arms, or involving most of the trunk and extremities, disappearing within a day or two after its occurrence; in some cases it is so faint or transitory as to entirely escape notice unless searched for by a trained eye. In other benign cases the rash will exhibit one or another of the following appearances: (a) an erythematous blush with distinct puncta; (b) a deep scarlet flush without visible puncta; (c) part of body appearing as "a," and part as "b"; (d) the same as above plus miliary, milky vesicles, generally distributed or confined to certain areas. The tongue frequently but not always presents a characteristic appearance, a creamy-white coat through which the papillae of the tip and lateral margins appear bright red. Occasionally there is a red punctate rash on the buccal mucosa; the uvula is usually swollen and in some cases edematous, the tonsils are inflamed and often partially or entirely covered with a pseudomembrane not unlike that occurring early in diphtheria. The throat is usually sore, perhaps swollen, and deglutition painful; in severe cases with high fever delirium is common; when there is profound toxemia stupor is present. Mild aberrant cases, which commonly go unrecognized, nearly all present one or several of the above signs of such degree that careful, complete inspection discloses the nature of the case. The most difficult cases, from every point of view, are such as

present no signs other than those of streptococcic tonsilitis; certainly there are many more cases of acute streptococcic tonsilitis not associated with scarlet fever than are; however, a study of the complications and sequelae in these cases indicates the economic as well as medical propriety of treating them all as scarlet fever. This is especially true in milk-borne epidemics and in other epidemics affecting adults. It has been repeatedly observed than when an epidemic originates from milk there is a coincident epidemic of streptococcic tonsilitis affecting consumers of the same milk supply. Most of the cases of scarlet fever contracted in hospitals, that I have seen, resulted from contact with patients having a condition diagnosed as streptococcic tonsilitis; they all originated in throat wards. Fulminant scarlet fever is rarely unrecognized as such during the course of an epidemic; fortunately such cases are very rare except during an epidemic; at the beginning of an epidemic, however, even the most experienced have mistaken them for confluent smallpox, which error it may be impossible to escape. Errors in differential diagnosis from drug rashes, measles, German measles, and erythema infectiosum, while at times embarrasing, are never harmful if one follows the rule to treat all suspected and doubtful cases as scarlet fever, that is, when the patient is confined to his home, or an isolation ward; it is a matter of grave importance, however, if unfortunate conditions necessitate the removal of the patient to a measles or scarlet fever ward. The principal distinguishing features may be summarized as follows: (a) drug rashes, quinin, strychnin, atropin, copabia, and iodin internally administered, iodoform and bichlorid of mercury washes are drugs capable of producing rashes simulating scarlet fever. When these drug rashes occur in a patient previously free of fever, the temperature either remains normal or rises only to subside within twenty-four hours. The throat is not affected, the tongue has not the prominent red papillae showing through a white coating, leucocytosis may not occur, and contacts convalescent from scarlet fever are usually not discoverable; (b) measles, Koplick spots are visible on the buccal mucous membrane of nearly all measles patients and never present in scarlet fever; a fine red rash in the mouth of scarlet patients is not uncommon but never observed in measles, the coryza of measles is absent or less pronounced in scarlet fever, there is usually no leucocytosis in measles and if present it is usually less than 10,000; in scarlet fever there is usually a leucocytosis of from 10,000 to 20,000; search for contacts will in the case of scarlet fever usually reveal other scarlet fever patients or desquamating convalescents or point to a milk-borne infection; measles is not a milk-borne disease, and in the case of measles other cases are usually found; (c) German measles, when it simulates mild scarlet fever, is most difficult if not impossible to differentiate; (d) erythema infectiosum is said to be distinguishable from scarlet fever in that it presents a macular rash and no throat symptoms; I have never seen a case of this disease.

TREATMENT.

The objects to be attained are minimizing virulence of invading streptococci, attenuating toxemia, and precluding as far as possible migration of streptococci; by so doing we alleviate symptoms and minimize complications and sequelae. The first procedure in the accomplishment of these desirable ends is to swab the nose and throat with salt solution, followed by tincture of iodin and fifteen minutes later with 20 per cent silver nitrate solution after which the nose and throat should generally be left alone. The administration of calomel, salts and castor oil is contraindicated; free elimination should be assured by an initial high soap-suds enema, followed by a daily enema of normal salt solution. From the first day of the disease the patient should be at absolute rest in bed and maintained so for at least two weeks after the subsidence of symptoms and fever; this minimizes migration of streptococci, complications and post-febrile nephritis. Copious draughts of water tend to preclude toxemia. Nourishment should be adequate. The development of symptoms of toxemia is an indication for prompt institution of continuous proctoclysis and if this fails to alleviate it, a transfusion, augmented by intravenous administration of about 200 cc. of antistreptococcus serum, is indicated.

Streptococcemia and multiple foci of infection are also indications for transfusion and serum treatment. Complications—The development of surgical complication is an indication for consultation if available before institution of operative procedures. Evacuation of pleural or pericardial effusion or pus should not be attempted, except for relief of serious symptoms, until the advent of recovery.

BATHS.

Contrary to prevalent lay belief, the presence of the rash of this disease is no contraindication and a warm sponge bath, daily, is productive of good, not harm. When temperature is high (above 103° F.) an ice cap and frequent cold sponges or cold packs are efficacious.

DESQUAMATION.

The fainter and more transitory the rash, the longer the lapse of time until desquamation begins and the slighter the desquamation. Desquamation may not begin in very mild cases until several weeks after disappearance of the rash; usually in moderately severe cases it begins one to five days after the rash fades; in more severe cases desquamation not infrequently is observed while the rash is still present. The character of desquamation varies so greatly that to distinguish it from desquamation from other causes is frequently impossible.

PERIOD OF INCUBATION.

Consideration of the period of incubation is a matter of importance in determining the length of time contacts should be quarantined; it has no diagnostic value. Many distinguished clinicians differ widely in their expressed opinions on the duration of the period of incubation. Some state it is from one to three, others one to seven, three to twelve, and three to twenty-one, usually ten to twelve days. Obviously some of these opinions are based on erroneous or insufficient observation. The minimum period is relatively unimportant in determining the proper duration of quarantine of contacts. My own observations have been insufficient to determine the period of incubation, but it is worthy of note that under favorable conditions for accurate determination I have observed six and probably more cases in which the period of incubation was between fourteen and twenty days. I am therefore convinced that the period of quarantine for contacts should be at least twenty-one days.

PROPHYLAXIS.

The most effective prophylactic measures are accurate diagnosis and proper treatment; I believe these two more effective than all others combined. Accurate diagnosis requires more than a knowledge of signs and symptoms of scarlet fever and the other conditions with which it may be confused; it requires a careful, complete examination of every patient, including smears and cultures from all sore throats and purulent nasal discharges. Proper treatment in addition to medication includes effective barriers between the patient and other individuals, surrounding the patient's bed with sheets and restricting admission to enclosure to the patient's attendants; sterilization of sputum, nasal and other discharges before they are disposed of; sterilizing the eating utensils and soiled bed clothing and observation by nurses and doctors of the decent precaution of washing hands after attending patients.

QUARANTINE.

Economic and political factors largely limit quarantine of contacts to children of the family in which a case of scarlet fever develops, and if all contacts are subjected to frequent inspection for three weeks and the source of infection searched for, this is probably sufficient. When contacts are placed in quarantine it should be for a period of three weeks. The patient should remain in quarantine until all signs of the disease disappear, or until discharging lesions, complicating the

disease, have become free of streptococci; in no instance should quarantine of the patient be less than six weeks.

SOURCE OF INFECTION.

When a case of scarlet fever is recognized, examination of the patient's associates not infrequently will reveal a possible source of infection in the person of a contact convalescing from the disease who is at large but should be in quarantine; at times a carrier will be detected. If the infection has not been transmitted from person to person, it will usually be traceable to the milk supply.

It is impossible in many cases for the attending physician to make these investigations, rarely is he in a position to do so as effectively as municipal, county, or state health officers, yet, next to correct diagnosis and proper management of the patient, this is the most important prophylactic measure and for this reason, if for no other, it would be highly desirable for the physician to notify his local health officer as soon as a diagnosis of scarlet fever is made.

612 American National Bank Building.

A QUARTER CENTURY OF SERUM THERAPY IN DIPHTHERIA.

In a recent address before the Academie de medecine of Paris, Louis Martin[1] recalled that in September, 1894, Roux communicated to a medical congress in Budapest the results of his pioneer studies on the serum therapy of diphtheria. To physicians of the present generation it seems long ago that Behring and his collaborators, Kitasato and Wernicke, definitely showed that the cell-free blood serum of animals immunized with diphtheria toxin acquires the power to protect other animals of the same and different species against the poison. Yet, in the quarter century that has elapsed since Roux put to the test of human clinical experience the treatment discovered by Behring, what enormous practical advantages to mankind have been derived from these brilliant scientific investigations. The outcome with the first larger group of diphtheria patients who received no other medical treatment than administration of antidiphtheritic serum was so striking that the procedure found prompt recognition from clinicians. Serum therapy in diphtheria became an accepted method. It is unnecessary to dwell on the fact that the mortality in this disease has been reduced from 30 per cent or more to 8 per cent or less in practice. The beneficient results can be learned from the experience of every community in the civilized world. The maximum of therapeutic efficiency has not yet been reached. With speedier diagnosis, with more direct methods of introducing the antitoxin, with better concentration and preparation of the latter, and with more heroic dosage in emergencies, the results seem destined to become even more favorable than they have been in the past. Now that the war is over and men can once more turn their thoughts to activities that are worth while, let us remember that the discovery of diphtheria antitoxin was not an overnight affair or a chance find. Only patient, laborious researches brought ultimate success. In the study of diphtheria, by which such brilliant results have been achieved, the laboratory and the clinic have worked hand in hand. Looking forward to further great discoveries in the domain of medicine, let us not fail to encourage in the case of other diseases likewise this fruitful collaboration between science and practice.—*Jour. A. M. A.*, Dec. 27, 1919.

1. Martin, Louis: Vingt-cinq annees de serotherapie antidiphtherique, Bull. de l'Acad. de med. **82**: 173 (Oct. 14) 1919.

QUININ IN INFLUENZAL PNEUMONIA.

Excellent results are reported by A. J. Caffrey, Milwaukee (*Journal A. M. A.*, April 24, 1920) from the use of quinin hydrobromid in the treatment of influenzal pneumonia. It seems to have given more satisfaction than the sulphate, in that the patients seemed more restful, it reduces the fever promptly, and in most instances keeps it under 100 F. Caffrey gives 25 grains for the first dose, 10 grains for the second dose, and continued throughout the course of the disease with 5 grains every four hours. He has never had a complaint of quinin amblyopia or marked tinnitus aurium and head noises which patients usually complain of when the drug is used in other troubles. Among twenty-seven patients receiving this treatment with other auxiliary drugs, such as digitalis, atropin and pituitary extract, good nursing, nourishing diet, fresh air, etc., there was only one death.

TREATMENT OF LYMPHATIC DERANGEMENT.*

WINNIE M. SANGER, M. D.
OKLAHOMA CITY, OKLA.

When a physician has had a sudden unexplainable death occur in his own practice, or within his intimate knowledge, he then turns to the subject of lymphatism or status lymphatism, as a possible explanation, and for a deeper knowledge of the relation of the lymphatic system to the vital force.

Some years ago, Prof. Langerhans of Berlin lost a son following the simple administration of antitoxin as a diphtheutic prophylactic, as we have occasionally heard of since then. A sudden death in the early stage of an adenoid and tonsil operation is not always explainable by heart failure or the anesthetic; the death of a swimmer from cramps—these and other instances cause us to think a little more seriously of the physiology of the lymphatic system, so long neglected, in part, in our text books.

Pediatricians have frequently studied the over-activity of lymphoid structures of bronchial mucous membranes and gastro-enteric tract in infancy, and its diminishing after the second year to be scarcely noticeable at the fifth or sixth year, while the tonsils and adenoid growths, like weeds, in the pharynx and their accompanying enlargement of cervical glands should attain their maximum at the seventh or eighth year, to become minimum at puberty though there are over 33⅓ per cent exception to this law of development.

The lymphatic system first shows the warning of acute and chronic infections of mucous membranes, by the enlarged lymph nodes, and the hypersecretion of the lymphatics of mucous membranes.

Before discussing further the lymphatic system, let us accept Da Costa's statement that "lymph *feeds* the body cells and lymph *carries away the waste* materials, thus being similar to the influx and efflux of water, in our modern city water system."

The lymphatic circulation carries the constituents of the plasma into the perivascular lymph spaces, and returns it to the heart by way of the lymphatics and certain veins.

The system consists of lymphatic glands, the large and small lymphatic vessels, or capillaries, the perivascular lymph spaces, the lymph canalicular system and the body system, and the ductless glands (co-operating with the liver and spleen) and other internal glands, with ducts, and the lacteals, containing the chyle, as a product of digestion which pass it into the blood through the thoracic duct, the pleural, pericardial, peritoneal, and synovial cavities are a part of the lymphatic system and the inflammatory exudates, bears abundant evidence of lymphatic derangement in these localities. The next work of lymphatic capillaries, surrounding blood vessels, carry abundant lymph, a fluid, like water, and these smaller lymph capillaries are absorbents, for they possess the power of absorbing certain materials from the tissues and conveying them into the circulation.

We have not cast aside mercurial inunction as a treatment for luetic blood, because we are more direct in the intravenous medication.

The smaller lymphatics branch by union to larger lymphatics, which become trunks, these to unite into ducts. Only the non-vascular structures such as cartilage, nails, cuticle, and hair have no lymphatics.

Having thus looked breifly at the lymphatic system, we will note the factors controlling the flow of the lymph:

The mechanical theory shows these forces to be acting, first, through the intracapillary pressure, tending to filter the plasma through the endothelial cells composing the walls of the capillaries; second, that form of molecular energy which

*Read in Section on General Medicine, Annual Meeting, Oklahoma City, May, 1920.

gives rise to the phenomena of diffusion and osonotic pressure, being due to differences of concentration of dissolved substances.

These two forces, acting everywhere, control primarily the amount and composition of lymph.

A third factor is considered when we note the striking difference in the flow of lymph in the different parts of the body. This is normally comparatively scant in the limbs, abundant in the liver and intestinal area, where absorption is active, and finally ending in the thoracic duct. Starling says that these differences may be explained by the variation of permeability in the capillary walls.

Experiments show that the concentration of bases, especially of the calcium content, in the substance of the vessel walls, may affect greatly their permeability and physical properties. This element varies greatly with water and character of the food or in general, with the composition of the blood.

That imbalance of lymph so noticeable as edema, dropsy, and ascites, is due to varying permeability of capillaries, and is found with a high or a low blood pressure with the overfed and the starvation type. This type was discussed in an article in an April Journal of the A. M. A., by Dr. Marie Maver, of Chicago, in "Nutritional Edema and War Dropsy." She goes exhaustively into historical research to show the effect of impaired nutrition on the lymphatic system, classifying this as "deficiency disease," due to a protracted existence on a diet deficient in that calories, especially proteids. She carried out a number of dietic experiments with animals to prove her conclusions, one of which, that a dry diet would not produce the edema though the same with all liquids desired produced the edema. She quoted various authors to prove that the lack of calcium fat and phosphorus in the blood, too little of fish or vegetables, proteids and vitamines, are common. in war edema, which is in Europe, at least, a prevalent serious lymphatic derangement. A careful study of diet is our first aim in lymphatic derangement.

De Lee says that more than half of all pregnant women show some edema of feet, hands, or face. When this is a non-pitting elasticity, we consider it an obstruction by pressure on the abdominal lymphatics and blame the kidneys, or fluid system, if there is "dropsy" as shown by pitting or pressure.

A food of low caloric value, either from quantity or quality, is often the causative factor of eclampsia, as well as other lymphatic derangements.

Anemia of pregnancy of whatever degree should put us on our guard lest pernicious anemia be the result, as shown by persistent weakness, shortness of breath, and edema of extremities. A blood picture of our first attention to the anemia is a good feature of our records, whether the patient is pregnant or not—marasmus of infants with its accompanying edema or lymphatic derangement is a serious prognostic symptom to all pediatricians. The lymphatic system fails before the heart does, for it is through the nutritional processes that the heart derives its force, and that life becomes growth. Intestinal parasites, such as hook worm, sometimes present a blood picture similar to pernicious anemia.

In the past two years while making physical examinations of over 10,000 school children between six and sixteen years of age, I have been much interested in the observance of lymphatic derangement, as manifested by excess obesity in some instances, by malnutrition in others, by infiltration of cervical lymph glands, by evidences of hypo- and hyperthyroidism, by symptoms of hook-worm, by deformities, infections and other evidences of lymphatic derangement, which if uncorrected by surgery, medical attention or environment, will not assure a sturdy manhood and womanhood.

It is sometimes shocking because the family practitioner will not be concerned about conditions in the patient, which are not classed among the diseases regarded as sickness and yet need far more skilled attention.

Cervical lymph nodes often medicate an infectious condition in nose, mouth or fauces, that may or may not be tubercular, but, needing attention. The large

number of tubercular subjects may be charged often to neglect of hygiene and infectious foci, thus weakening the body's resistance to the tubercular enemy.

We talk sanitary efficiency, education of the people, and inoculation to prevent typhoid, but the responsibilities to rich and poor alike are heavier to prevent tuberculosis.

Every infectious focus should be viewed and treated with suspicion. And all infections not promptly responding to the best therapy should receive surgical treatment, when such is indicated.

Prophylactic measures begin in early youth when we teach the child that every decayed tooth or infected tonsil is a menace to health and a poison draining into the lymphatic system. We vaccinate as a protection against variola, diphtheria, typhoid, tetanus, etc., but the lack of physiology and hygiene taught in the grades under the sixth, below which over 70 per cent of our population complete their education, is a sufficient reason for the mass of people's ignorance in health measures and their easy belief in the teachings of the quack and the charlatan. We should see that a practical knowledge of physiology is taught in the fourth and fifth grades, displacing with little detriment the geography, if need be, that is taught in those grades. We will then have more intelligent patients to deal with. The large number of deaths in middle life due to cancer, should compel us to teach people the early signs and symptoms, for when the lymphatic system is largely involved it is well known that surgery, radium, x-ray, or drugs may not produce a cure, though some cults may secure a belief in the cure without all these while the disease goes marching on.

We are not so worried about encountering the malignant lymphadenoma known as Hodgkin's disease, as this is rare in youth, though we should be able to differentiate the simple lymphoma of youth and adults from Hodgkin's.

Auto-intoxication of whatever degree shows us that the ductless glands and and lymphatic activity is deranged and that excretory and secretory power of glands are not properly functioning. We usually begin by stimulating the secretory function of the liver, which method we have learned and practiced from ancients.

The spleen, in its white corpuscle formation, like the lymph glands, may become so diseased in function as in leucocythemia that it enlarges while the excess is carried away by the lymphatics.

Electric currents applied over the spleen during this condition starts the leucocytes flowing through the blood. Few of us nowadays that do not agree with Sajous that immunizing medication is the foundation of rational therapeutics and that bacterial vaccines as well as drugs and food cause the blood to become richer in throidase (opsonin), with the phagocytes and auto-intoxication to destroy them.

Under the guiding influence of the pituitary gland, the adrenals and thyroids supply the secretion to destroy the germs.

No one in general practice but considers the effect of climate, seasons, altitude, latitude, and weather conditions on many patients with disease and the effect of hydrotherapy to a greater or lesser extent, which we permit to be used.

The partial or full immersion bath, hot or cold; douches, packs, icebags, hot-bags, turkish baths, enemata, lavage, clysis, etc., are useful in various lymphatic derangements. Some disturbances of metabolism require all our knowledge plus the wisdom of experience of other practitioners, to secure and re-establish health before the prognosis is unfavorable.

First comes our clinical diagnosis, which should be the leading talent of the physician, and this when necessary corroborated by the laboratory findings.

Second, our knowledge of functional standards and the departure from the normal should be freshened by a frequent study of the latest physiology, plus our post-graduate studies, while the surgeon reads his anatomy as a Christian minister reads the Bible.

Third, our up-to-date knowledge of modern therapy should follow Pope's

rule of diction: "Be not the first by whom the new are tried, nor yet the last to cast the old aside." We must get in the habit of thinking of and observing the lymphatic functions and derangements, both nutritional and infectious, and thus connecting with metabolism and catabolism the lymphatic glands and the internal glands as excretory and secretory organs and then from the mechanical standpoint alone, not considering the important element of psychological force, we can see when the human body like a well-cared for car having its gasoline system, its electric currents, water and oil, with its mechanism duly adjusted and operated, will function smoothly—provided the materials of the manufacture were first class in the beginning.

When functions of the human body will not get right, we consider the personal equation as affected by hereditary influence and environment, and if of leutic, insane, cancerous, epileptic, or tubercular ancestry. We have conditions to treat that would sometimes seem hopeless. Hopeless suffering humanity, when such is admitted by all, should have an euthanasia, and it is our duty to educate public opinion to the righteousness of this procedure.

Public health opinion is putting a heavy responsibility on the physicians in educating the 75% to 90% of people less educated than we are, to correct views of health and disease and not leave this to the forty-odd cults and their ignorant following, who know nothing about the human body as physicians must, with their twenty years of continuous study and education before we even attempt to begin the practice of medicine.

DISCUSSION.

Dr. C. S. Bobo, Norman: I have heard with a great deal of pleasure Dr. Sanger's paper. I think she has covered the ground so thoroughly she has not left very much to discuss. Not knowing very much about the symptoms, any more than I do, that of the general practitioner who has no opportunity to work out those things, but simply to observe them, I find the subject of her paper a very pertinent one and one that every physician should give more study to than we have, and that is the system of transmitting diseases and the disturbances should be given more importance than we have given it. I think the doctor's paper was very good and I am sorry I cannot make a more extended discussion on it.

Dr. C. J. Fishman, Oklahoma City: I regret that I did not hear all of the paper but the enlargement of the lymphatic glands is so frequently seen that we should investigate and find out the origin and trouble of all granular enlargements. There has been no definite scientific findings that the lymphatic glands have any internal secretions. It has been repeatedly shown that the lymphatic gland is a carrier and a store-house for some infected point. We may accept these enlarged glands as a case of infection somewhere in the body. The enlargement of these glands points in the direction of some sources of infection. The upper chamber of the glands point to an infection in the tonsils. Sometimes the infection is not evident from the outside. The tissue is buried. Therefore, if we have enlarged glands and we look for the focal infection point, we will find there is some infection.

Dr. Sanger, closing: Thank you, gentlemen, for your discussion. I want to add further that I think it is the duty of the health doctor to see that someone in their town sees to public health. In my work as medical inspector I find among the teachers, and pupils especially, so much opposition in regard to proper treatment of the tonsils.

MEASLES, BRAIN COMPLICATIONS.

Two cases of measles seen by A. L. Skoog, Kansas City, Mo., (*Journal A. M. A.*, June 19, 1920), presented brain complications, one a cerebellar and the other a memingeal involvement. The first patient made a complete recovery in a short period, indicating that few or no cerebellar neuronal elements were destroyed. The second patient was not so fortunate. It is reasonably certain that imbecility and possibly epilepsy will always be present.

WOMEN IN MEDICINE.*

CLARA F. PALMER, M. D.
MC ALESTER, OKLA.

It is with a great deal of hesitancy and misgiving that I read a paper and try to tell anything new or original in regard to the accomplishments of women in this profession.

In the early part of 1918, I was appointed chairman of the American women's hospitals for this district and a great deal of literature has been sent me telling of their great work during the recent war.

We have had our great women in various pursuits and volumes have been devoted to them, but in my reference books I find no name of woman pre-eminent in the healing art. While such surgeons and scientists as Jenner, Virchow, Lord Lister, and Robert Koch carry your memory back to the old college halls of your Alma Mater, I find the lone name of Elizabeth Blackwell, born in 1821, to be the first woman who ever obtained a medical diploma in the United States and that, too, after many years of difficulty before being admitted to the College of Geneva, New York, where she graduated in 1849 and founded a hospital in New York in 1854 for women and children. She died in 1910.

With our entry into the war in 1917, women physicians and surgeons all over the United States began to take definite steps to render national service for which they were trained and while other women were entering fields new to them, the physicians and surgeons were ready at once to render indispensable and vitally needed services not only at home but abroad.

The value of women physicians and surgeons has passed from speculation to certainty. In Europe almost before the United States had entered war, ten hospitals varying in capacity from one hundred to six hundred beds were fully staffed by women and the highest standard of work was maintained in surgery; general, orthopedic, and oral, and in the care of medical cases, singly and epidemic. The Scottish women's hospitals were founded in 1914. The unit was made ready and went to Belgium in ten days. They had the lowest death rate from typhoid of any army hospital in the country. Four Scottish women's hospitals were established in Serbia during the typhus epidemic and five thousand cases per week were treated in *one* of them.

In one hospital near Paris, when the wounded soldiers were brought in after a battle, women operated every hour for three days and nights consecutively. That soldiers like to be cared for by women physicians is shown by the fact that when they were wounded the second time, they requested to be sent back to the Scottish women's hospitals.

In a recent news letter from the women physicians in Serbia, a few are mentioned who have rendered invaluable service. Dr. Etta Gray, President of the Medical Women's National Association, is a woman of great physical strength and endurance and a high degree of medical and surgical skill; qualifications necessary for all medical women. She has the assistance of several capable women who have made a success of clinics, dispensaries, and infant care.

Dr. Alice Barlow Brown, of Chicago, a classmate of mine, sailed from New York, December 8th, 1919. She started the first dispensary circuit conducted by Americans in the war zone of France. By dawn of each morning her camionette (ambulance) was on the highway bearing relief to towns and villages which had been shelled until they looked more like the ruins of Pompeii than modern habitations. The executive committee have great confidence in Dr. Brown and her coworkers.

About a year ago eleven women physicians chosen from different parts of

*Read before Pittsburg County Medical Society, April 16, 1920.

the United States were selected for service with the American Red Cross in the Balkans. Dr. Dora E. Brown of Kansas City, Missouri, was sent to Montenegro and in her letter states that she has done over three hundred operations including almost everything in general and special surgery. There have been over sixty herniotomies, a number of laparotomies, appendicectomies, carcinoma, mastoid abscesses, tubercular lesions and gunshot wounds too numerous to mention.

Dr. Charlotte Fairbanks of Vermont reported over eight hundred surgical cases, which she performed while serving as head surgeon at the American Women's Hospital No. 1 at Luzancy, France, which was conducted in co-operation with the American Committee for devastated France.

Dr. Regina Keyes has charge of a flyless hospital at Monastir. Her only assistants are Dr. Wood and a nurse and in the dispensary averages three thousand sick persons per month.

America is fully abreast of her allies in well trained professional women. They are graduates from the same colleges as the men physicians and from those of equal standing, Johns Hopkins, Cornell, University of Michigan, and from practically all the co-educational medical colleges in the United States. Many have received college degrees before studying medicine and have pursued post-graduate studies at home and abroad. They are on the clinical and teaching staffs of such New York hospitals as the Post Graduate Polyclinic, Rockefeller Institute and Hospital, Vanderbilt Clinic of Roosevelt Hospital, the Eye and Ear Infirmary, and many other of the most prominent hospitals throughout the United States.

Women physicians are fellows and members of such national, special, and local medical and surgical associations as the American College of Surgeons, the American Academy of Medicine, New York Academy of Medicine, Brooklyn Pathological Society, American Society for Cancer Research, etc.

Our relief work in France is almost over, but by helping in the reconstruction work we are building a living memorial for the organized medical women of the United States which will manifest itself in the better health and well being of all those reached by the women physicians and surgeons.

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ACUTE MIDDLE EAR INFECTIONS IN CHILDREN.

According to L. E. La Fetra, New York (*Journal A. M. A.*, May 1, 1920), the chief reliable sign of mastoid inflammation is sagging of the posterior superior quadrant of the drum with the adjacent wall of the canal. Tenderness above the tip on a line directly behind the meatus at the site of the mastoid emissary vein, and tenderness of the upper part of the mastoid in the region of the zygoma are very important if they can be elicited. Other suggestive signs are a profuse discharge or the sudden cessation of a profuse discharge. In little babies, and occasionally in older children, an edema over the mastoid process is important. Vacillations of temperature without the canal signs are not reliable, though if these temperature elevations are continued and unexplained by pneumonia, pyelitis or by gastro-intestinal disturbance, they must be regarded as pointing to mastoid involvement. If successive blood counts show an increase in the number of poly-morphonuclear cells and in the total leukocyte counts, they are also valuable; but single blood counts are of little importance since the blood in children is susceptible to a polymorphonuclear and total leukocyte increase. The indications for the mastoid operation are a persistence of the signs mentioned, in spite of free drainage through the wide incision in the drum. The only method of cure is by posterior drainage through the mastoid bone, together with clearing out of all the cells and bony tissue that are infected. La Fetra pleads that careful routine examination of the ears be made in all cases in which fever is present. To the man who treats children the otoscope is far more necessary than the stethoscope.

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EDITORIAL

SEPTEMBER'S PROBLEMS.

Observing physicians, analyzing cause and effect long ago fell into the habit of appreciating problems brought to us by mobilization of hundreds of thousands of school children who bring to their fellow children myriad infections and seemingly the irreducible minimum of fatalities incident to communicable diseases. That these conditions of morbidity and mortality are yet easily subject to further and effective prevention and control is also fully appreciated by the thoughtful physician, sanitarian and hygienist and the intelligent, but minority portion of our citizens. It has also become almost the universal custom to regard dissemination of knowledge as to approved methods of control as the function of the greatest altruism on the part of the doctor; indeed the few who look upon these annual onslaughts of destruction in a selfish manner or with indifferent attitude are indeed very few, reflecting no credit upon his profession or glory to the people of which he is an ignoble part.

The problems present the same identical features each year. Those of us who carelessly maintain a state of unpreparedness in these matters are in like manner unprepared to cope with all others. Realization that the parent above all others, the health officer, teacher and physician, to obtain the maximum of benefit, must co-operate in intelligent manner, is fixed law. Perfection in action on the part of one, utter idleness on the part of anyone of the others wrecks the entire fabric of defense and offense, leaving loopholes for entrance and spread of disease, sometimes to appalling ends.

Speaking for the physician solely, it seems pertinent to note the recurrent futility of action, which practiced by some, renders all of us impotent. One of the commonest attitudes of really criminal tendencies is that of the physician who slowly appreciates the portent of his case, with equal slowness, advises isolation

and specific effective treatment, all too late to protect others or save his case from destruction by preventable, controlable means. The causes commonly met are:

Smallpox; wholly preventable, treatment almost ineffectual, usually of little importance, yet occasionally extremely virulent in one who contracted it from negligible infection in others. The same old silliness of useless quarantine practiced by our fathers is the order of the day. National unappreciation of its futility and impractical handling except by vaccination is a monument to our stupidity and inability to profit by past experience. Health officers fully understand that all quarantine should be abrogated, that vaccination be made easily available to those who will accept it, and to those who obstinately reject it no attention should be paid. Certainly most of us are tired of bearing the burden of ineffectual quarantine of the ignorant and prejudiced unvaccinated, while our families in safety rely upon that sure protection. It seems unfair to penalize those of us who are protected just to maintain unnecessary expense through generations of ingoramuses, and which seems to have no end in sight.

Diphtheria: School inspection, in good faith, does more to control this infection than any other means. After its origination the path of quick control is nearly always to be found in immediate prophylaxis to those exposed, and *sufficient* specific treatment of the case.

Scarlet fever: Often immediately fatal, sometimes so in after years by its complications, is our most formidable enemy. Unlike its neighbor, its wide range of course from mildness to fatal virulency sounds its difficulty of control. Here effective recognition, isolation, quarantine, intense symptomatic treatment is the only plan to adopt.

Measles, whooping-cough, a phalanx of lesser infections of the skin, eyes, throat infections lightly regarded, each are occasionally forerunners of fatality, all more or less incapacitating, many usherers of complications slowly mounting to fatal aftermath, must be regarded by those concerned and charged with responsibility, as matters of the greatest importance potentially. Despite our vaunted advances our body politic is still held down, made inefficient and helpless by the obstinancy of physician and parent; that phase of the problem appears to be hopeless, it also accounts for the despairing resolve often heard from good physicians to let the whole thing go bang. One of the phases of the matter also largely appreciated is that found in the practice of every means of intelligent control in one locality, all rendered useless by the indifference of the health officer and people in adjoining localities who neither see, hear or act.

OKLAHOMA SHOULD EMULATE ARKANSAS.

Poking kindly gibe and fun at our neighbor Arkansas is the national sport of the Nation. Perhaps it is somewhat justified from the conditions existing in the past, however few realize the rapid strides and healthy, clean accomplishments of our Eastern neighbor unless a visit enlightens us. Aside from the very respectable material productivity and material reduction of its vast natural resources; its important role in easily feeding its own people and annually sending immense quantities to other states; its slow, but very good system of road building, home building, educational advances, in fact progress in every line, we must not forget in our jocularity that its citizenship is highly tinctured with what lately we have dubbed, "Americanism." This latter fact was recently demonstrated in the retirement of a stubborn United States Senator by more than 35,000 majority in the primary elections.

Of interest to the doctor, however, and to Oklahoma small towns without hospital facilities, and they number hundreds, your Secretary-Editor, worn to the bone by work, recently took advantage of short distance and attractive climatic conditions to visit one of the clean, small, delightful little towns of North-

western Arkansas, Siloam Springs. The first morning, noting a dark brick, red-tiled roofed, three-story building near the hotel, inquiry of the maid brought the information, "Oh, that's our hospital, it ain't much though." Well it was "much," much more than any one town on that line of railway could boast in some 150 miles of its course through Oklahoma. A visit disclosed the usual "hardup," complaining situation of the Superintendent, who remained unmollified after assurances that what she had was far superior to that of most of mine own people, that it was doing good, filling a necessity little appreciated, except by comparison with its absence.

The system making the hospital possible is within reach of practically every small town of Oklahoma, its erection calling for no more expenditure substantially than is already thrown away on wasteful rents and misdirected taxation. Briefly, the town, finding itself about to erect a small municipal building to house its modest fire apparatus, mayor, city clerk, water and light offices, possessed a physician of vision, who induced his people to allow them to add a third floor which was divided into small rooms, wards, operating room, etc. To be sure the sum total of its space amounts to very little, nevertheless it provides a clean place, where emergencies, otherwise often surely fatal by a few hours delay, may be treated with success. It also provides a few nurses, who, co-operating with the doctor, makes for better care of many sick people. Altogether it gives the little town something rarely encountered in any part of our country, and at the modest expense of four walls, windows and subdivisions.

If our Oklahoma towns would apply the present rental they annually dissipate upon poor quarters for the mayor, clerks, and other municipal offices, to a long time bonded indebtedness, the effect would be immediate relief of suffering, a higher grade of work from the physician and surgeon; a state as nearly practically perfect and productive of great good as could be from the simple course outlined. In that respect, as well as in many others, we may well "Follow our Leader."

IMPROVED SERVICE FOR OKLAHOMA'S UNFORTUNATES.

Recent press dispatches note the enormous valuation of various buildings and lands owned by Oklahoma devoted to the care of mental cases, the blind, deaf, orphans and others, and also to the efforts of Dr. A. R. Lewis, State Commissioner of Health, and others to procure needed treatment of our charges by specialists. Unfortunately, through the machinations of politicians, many of the institutions are badly located as to available medical and surgical care which through the misfortune of poor physical heritage they are more in need of than the citizen of average physical endowment. Without decrying the many splendid, alert physicians to be found everywhere in our smaller centers, it is admitted that the larger cities hold the most successful from the fact that they are given opportunity to care for a wide range of derangements not to be found except in rare isolated cases in the sparsely settled community.

The suggestion that a "Flying Squadron," or consulting staff, carefully selected, and whose duties it would be to make periodic visits to operate upon and otherwise advise treatment for the inmates, is one of possibilities and should be given earnest consideration. The writer recalls, that prior to the War, an adept operator aided by seven assistants operated upon more than sixty children of the Pryor Orphans' Home in a day, the results being immediate improvement of the individual, lessening the sick call thereafter, as well as removing a potent aid of tuberculosis, bronchial and systemic infections. The high incidence of infections due to adenoids and tonsillar infections in these children, warranted the procedure, no one was greatly discommoded, and the results were brilliant and by any other course unavailable. We believe this or some system based upon similar general outline may be originated with the end that these people will be recipients of vast physical improvement.

NO PHYSICAL TEST FOR SCHOOL CHILDREN.

"Parents are not forced to permit examination of their children by physicians before attendance at public schools," E. L. Fulton, assistant to the attorney general ruled. The superintendent of schools, Cherokee, Alfalfa county, became unduly perturbed over this vexing problem and straightway checked it to the attorney general's office, which rightly ruled that Oklahoma has no such law, no rule, even if the physicians of Alfalfa County in their zeal for unrequited labor offered to perform the services gratis, in the interests of humanity, common sense and the commonest modern acceptation of world-wide knowledge that such examinations do protect human life and prevent spread of infections incident to child life.

Those enthusiastic medicos of Alfalfa county, however, may view with pardonable pride, the accomplishments and perfections of the laws of Oklahoma which, while guarding the sacred constitutional rights of our itchy kids, look well indeed to the interests of our bovine and procine population. No Tom Green county (Texas) ticky steer may with impunity tread the board walk of their railway siding, minus approved dip; no Louisiana razorback may nose his way into the sacred precincts of the body politic of our northwestern neighbor, but the "kids," well, that is a different matter. As one legislative member, who may be identified as to mentality by casual view of his ears, which to the ordinary observer brings the wonder if Darwinism may not sometimes be caught "descenting" backward, expressed his intelligent opposition to inspection of our school children with the argument, "it might scare the children." You gentlemen of Alfalfa county should attend to your own business. Why "scare" your neighbor's child by prying into his oral cavity simply to gratify your curiosity as to whether he harbors a little potential destruction in the way of decayed teeth or infected tonsils or scarlet fever and diphtheria? Hasn't he folks of his own to look after him? Did his forbears back to the grand day of the Great Charter, not get along without such interference? If you were really shrewd, as shrewd as your Christian Scientist-Chiropractic opponent of inspection charges you to be, you would capitalize your ulterior thoughts and motives as others do, you would hammer at the door of the legislature demanding inspection? No, no inspection, no quarantine, but free, unrestricted American passage of the land and ocean by every possible type of infectious disease. Then all would be well, every new onslaught would be grist to our mill. If any misguided person sought to take the bread from our mouths by limiting the output of our livelihood of new material, why just handle him as certain other organizations do, half a brick on the top of his head, a piece of gas pipe scientifically applied with our knowledge of anatomy would place us at a vantage point heretofore beyond our dreams.

PUBLIC HYGIENE AND THE LEAGUE OF NATIONS.

The Council of the League of Nations recently discussed the report of M. da Cunha, delegate from Brazil, on the formation of an international organization of hygiene as provided by the treaty of Versailles. The purpose of this organization is principally to advise the League of Nations in matters of hygiene; to communicate promptly recommendations designed to combat epidemics and diseases in general; to conclude international agreements bearing on hygiene and to revise existing treaties; to protect the workingman and to co-operate in this endeavor with the international labor organization and the Red Cross and to organize medical missions on the demand of the League of Nations. This constitutes, in fact, an amplification of the first Office international de l'hygiene publique, which was created by a conference held in Rome in 1907, and an adaptation of the latter organization to the League of Nations.

The new organization will be formed (1) of a general committee of survey composed of the delegates of all the states which adhered to the Rome conference in 1907, (2) of a permanent committee consisting only of delegates of countries

represented in the Council of the League of Nations, and (3) of a secretarial office. The permanent committee will consider all projects which will be submitted to the approval of the general committee and the latter will transmit the proposals to the respective governments who will have final decision in all matters. The expenses of this new organization will be borne by the general budget of the League of Nations.

Jour. A. M. A., Paris, 8-28-20.

URUGUAY AND THE UNITED STATES.

During the Great War, Uruguay stood staunchly with the United States, and her president, Senor Baltasar Brum, a brilliant young statesman, who is well known in diplomatic circles in Washington, and the able foreign minister made decisions which will be permanent additions to international law; in substance, first, that a republic fighting for her sovereign rights is not a belligerent and has the right of asylum and protection from all republics, and second that when the United States is forced into war to protect her rights she is protecting the rights of all republics, and all republics become parties to the conflict. Uruguay promptly followed the United States in declaring war on the Central Powers.

Wm. J. Mayo, Jour. A. M. A., 8-28-20.

PERSONAL AND GENERAL NEWS

Dr. W. S. Ivy, Marlow, has moved to Duncan.

Dr. Julian Field, Enid, is in Boston doing postgraduate work.

Dr. A. C. Hirshfield, Oklahoma City, is visiting Colorado resorts.

Dr. M. E. Stout, Oklahoma City, visited eastern clinics in August.

Dr. J. Hutchings White, Muskogee, visited eastern points in August.

Dr. R. F. Terrell, Stigler, visited Colorado and Wyoming points in August.

Dr. W. A. Tolleson, Eufaula, suffered the loss of a Buick car in August by theft.

Dr. Earnest Sullivan and family, Oklahoma City, spent their vacation in Chicago.

Dr. and Mrs. D. S. Downey, Chickasha, spent several weeks in Branson, Missouri.

Dr. and Mrs. W. E. Dixon, Oklahoma City, have returned from a visit to Colorado points.

Dr. G. H. Cameron and family, Healdton, spent the month of August on the Great Lakes.

Dr. C. E. Sexton, Stillwater, has been appointed physician for the Federal Vocational Board.

Dr. W. H. Rutland has moved from Altus, Okla., to 55th St. and Moneta Ave., Los Angeles, Cal.

Dr. F. E. Gastineau, Pawnee, has been appointed Superintendent of Health for Pawnee County.

Dr. C. M. Fullenwider, Muskogee, has returned from six weeks motor and fishing trip to Montana points.

Dr. C. H. Ball, Tulsa, recently initiated the Tulsa Kiwanis Club into some of the mysteries of the x-ray.

Dr. G. E. Stanbro, Buffalo, N. Y., has located in Pawhuska and is associated with Dr. George O. Langworthy.

Dr. G. L. Johnson and family, Pauls Valley, motored to Arkansas in August, hunting and fishing on their vacation.

Dr. and Mrs. J. M. Workman, Woodward, have returned from California where they had been visiting for several months.

Drs. Benton Lovelady and J. L. Melvin, Guthrie, have opened a general hospital for the care of medical and surgical cases.

Dr. Sidney Hagood and family, Durant, spent the weeks of August at Siloam Springs, Ark., the old home of Dr. Hagood.

Dr. Samuel J. Fryer, Muskogee, has been appointed Examiner for the Bureau War Risk Insurance, vice Dr. C. A. Thompson, resigned.

Dr. W. M. Horine, Henryetta, spent July and August in the Rockies. He made the trip by automobile and was accompanied by his son.

Dr. and Mrs. A. B. Leeds, Chickasha, accompanied by friends motored to Valley Ranch, New Mexico, in August on a hunting and fishing trip.

Mrs. J. Y. Scroggs, of Norman, and Miss Bess Ross, of Enid, have been appointed by Governor Robertson as members of the State Board of Nursing Examiners.

Dr. and Mrs. G. E. Goodwin, Ardmore, are visiting eastern points. During his absence Dr. Goodwin will travel to Hudson's Bay on a hunting and fishing trip.

Dr. Lee W. Cotton, Enid, was the unsuccessful candidate in the Democratic Primary for the State Senate. He was nominated in a hopelessly Republican District.

Dr. and Mrs. C. Garabedian, Tulsa, visited Chicago in August, Dr. Garabedian attending various clinics while Mrs. Garabedian visited in Minnesota and Michigan.

Muskogee's Associated Charities have converted a small outbuilding on the grounds into a fairly miniature hospital where minor operative work is rendered the inmates at the Day Nursery.

Dr. H. M. Stricklen, Tonkawa, is said to have punched $90.00 worth of doctor's bill out of a slow debtor; at that he is ahead of the game for the press dispatch indicates the Court only charged him a Five Spot.

Dr. and Mrs. L. H. Murdoch, Okeene, are motoring to California and will visit western points for two months. Dr. Murdoch's work is in the hands of his son, Dr. R. E. Murdoch, Oklahoma City, for the time.

University Hospital, Oklahoma City, will make an attempt to secure sufficient radium for the institution's needs in treatment of indicated cases. It is estimated $20,000.00 will be required to secure amount necessary for practical purposes.

Dr. H. A. Lile, Cherokee, celebrated the formal opening of the new addition to the Alfalfa County General Hospital early in August, tendering a banquet to a large number of visiting members of the profession from Oklahoma City, Alva and various other towns.

The Kentucky Historical Society, according to press dispatches, has located at Alva, in the possession of Mr. Arthur Noel, a famous portrait of Dr. Ephraim McDowell. It is said the portrait was painted in 1820 and that its discovery ends a search of many years.

Dr. Glenn Francisco, Enid, spent the month of June on the Pacific Coast, attending the International Kiwanis Club Convention at Portland, Oregon, the Shriners' Convention in that city and incidentally looked in on the Democratic Convention at San Francisco.

Dr. Hugh Scott, Surgeon, U. S. Public Health Service, is arranging for the opening of a hospital at Rainy Mountain. Buildings of the former Rainy Mountain Indian School will be converted for the use of tuberculous War Risk beneficiaries, according to press dispatches.

Dr. Claude Thompson, Muskogee, after serving for ten months as War Risk Examiner, tendered his resignation, effective on securing successor. Lack of time, inadequate pay, general misunderstanding of details of work by beaurocrats, and dissatisfaction with the boresome details and irritating trivialities hampering efficient care of ill and injured returned soldiers was the prompting cause.

Dr. George A. Waters, Pawnee, has been appointed Warden of the State Reformatory at Granite. The appointment of physicians to superintendency of similar state institutions should be encouraged. With the State providing adequate remuneration, the physician, if of professional and executive ability, is in better position to serve the State's charges than is any other professional or business man.

Oklahoma posts, American Legion, are urging establishment of a hospital in Oklahoma for Oklahoma's returned sick and injured soldiers. This step is based upon the clearest justice and right to these men, their relatives and the citizenship of the State which sent to war approximately 100,000 men, and at a preliminary cost of less than two dollars per capita while some of our patriotic eastern states calmly pocketed, in some instances, nearly twenty dollars per capita for similar service. Yes, indeed, we should have the care of our own people.

Okmulgee County Medical Society met in Okmulgee August 9th, Dr. W. B. Pigg, the poetic Secretary of the organization, flinging this to the winds in the official announcement: "The good old summer time is here, We have no rickeys, gin or beer, Just soda pop and lemon fizz, Is all the cold drink what they is." To what lowly state has our Okmulgee friend descended. "Obstetric Technique," by Dr. E. C. Myers, Okmulgee, was discussed by Dr. W. C. Mitchener, Okmulgee; "Salpingitis," Dr. Fred S. Watson, Okmulgee, discussed by Dr. Ira W. Robertson, Henryetta. "Tropical Diseases," by Dr. F. A. Howell, Okmulgee, discussed by Dr. C. M. Ming, Okmulgee.

The American Society for Control of Cancer announces that appropriation of $225,000 for 2¼ grams of radium has been made a fact. Any citizen of the United States may avail himself gratuitously after October 15th of treatment, but preference will naturally be accorded citizens of New York. The first gram is now in the vaults at Buffalo, and was brought 2900 miles across the continent in the form of 125 tons of Colorado carnotite to the plant at Orange, N. J., where it was extracted. This is said to be the first purchase of radium by any state and marks a step of advancement in the treatment of cancer by this method, which is now admitted by authorities as the most efficient means yet attained.

The Medical Department, Oklahoma University, proudly issued a bulletin from the office of Dr. LeRoy Long, Dean, which embodies the following facts furnished the Department by Dr. J. M. Byrum, Secretary of the State Board of Medical Examiners: Every 1920 graduate passed with good grade, first honors being accorded Dr. Elizabeth Lehmer, who has received written congratulation from the Faculty (see July Personal and General). Twenty-eight applicants in all appeared for examination, with six failures. Of the twenty-two successfully passing, fifteen were graduates of Oklahoma University, our own Class A school.

DR. ERNEST PLEAS.

Dr. Ernest Pleas, for thirty years a practitioner in Indian Territory and Oklahoma, died in his home at Collinsville recently, at the age of 61, after three months' illness, from what is reported as Cancer of the Liver.

Dr. Pleas is survived by a wife and two children. He was one of Indian Territory's successful practitioners, a good citizen, he served his people and time well and goes to his reward with a good record from every standpoint.

The Third Annual Oklahoma State Public Health Conference will take place at Oklahoma City October 12-13, 1920. The conference is under the joint direction of the Oklahoma Tuberculosis Association and the State Department of Public Health. For information concerning program apply to either organization.

The American Child Hygiene Association meets in St. Louis, October 11-13. Dr. E. J. Goodwin, St. Louis, Secretary-Editor of the Missouri State Medical Association, furnishes the Journal proof of the proposed program, which is too lengthy for inclusion here, but of it may be said from the contents, a most instructive meeting will result. The expectant mother, the unmarried mother, nursing wards, dental defects, mental health of the child, standards of health work, publicity, heart diseases, economy and nutrition, tuberculosis, public health nurses, welfare clinics, boarding out vs. institutional care of infants, are some of the features to be read and discussed at the meeting by eminent American authorities on the subjects.

Dr. A. R. Lewis, State Commissioner of Health, bitterly complains in a communication to the Journal of the attitude or restrictions hampering proper care of Oklahoma's defectives with reference to the services of needed specialists, who, offering their high-class services gratuitously to our wards witnessed this ending to their very altruistic endeavors. Authorized by the State Board of Affairs to render such services, Dr. Lewis enlisted the voluntary aid of two specialists who visiting the school for the deaf at Sulphur examined and concluded that approximately 75 per cent of the inmates needed various correctional services of minor defects, which handicapped those already in a below par category. Securing permission almost unanimously from the parents and guardians that this needed work be done, he submitted estimate of a small per diem and actual expense necessary to reimburse the specialists to the State Auditor who found technical reasons for rejecting the expenditure on the ground that no specific appropriation existed for the purpose. At that time Dr. Lewis had in his sanitary inspection fund a surplus of some two or three thousand dollars, a part of which reverted for lack of expenditure to the general fund on June 30th. In the meantime the children may "go hang" simply because a technical hair-splitting view of legal intricacies prohibited their relief. Certainly no person of good sense would have ever raised objection to the trivial expense incurred in this proposal. Verily our politics makes us do strange things.

MISCELLANEOUS

TUBERCULOSIS.

Ceremonies for the laying of the corner stone of the State Tuberculosis sanatorium at Clinton were held August 13 at the site of the building. In addition to a number of state officials, who went over for the occasion, there were present several hundred people from the surrounding community, and prominent professional and business men from throughout the state. William Jennings Bryan was the only speaker at the Rotary luncheon at which the visitors were guests of the Clinton Rotary club. He also made an impromptu talk in the afternoon at the corner stone ceremonies.

PUBLIC HEALTH CONFERENCE.

Extensive plans are being made for the State Public Health conference which will be held at Oklahoma City, October 12 and 13. The conference will be conducted under the joint auspices of the Oklahoma Tuberculosis association and the State Department of Health and will be the official annual meeting for these two organizations.

Because the problem of industrial health, or the relation of the health of the employee to the employer will be one of the chief topics of discussion, it is expected that many of the industrial leaders of the state will attend. There will also be present representatives from civic and commercial clubs.

While health is primarily a question for the doctor, the cost of sickness is coming to be recognized as an industrial problem—and, therefore, of interest to business men. Both program and entertainment will be of sufficient scope and variety to interest the medical profession, the business man and the general public, the committee announces.

INTERSTATE MEDICAL LICENSURE.

Resolution adopted by the House of Delegates of the Ohio State Medical Association, at its last annual meeting, held in Toledo, June 1, 2 and 3, 1920:

"Whereas, in our forty-eight states there are as many separate medical examining boards, and

"Whereas, licensed physicians in one state may not always practice in other commonwealths without vexatious examinations and expense, and

"Whereas, the government in time of war frequently sent physicians into army camps in other states, and therefore disregarded state boundaries, and

"Whereas, there is practically homogeniety in the anatomical and psychological makeup of the people in the various states, and

"Whereas, the same may be said of the physicians throughout the land.

"Therefore, Be It Resolved, that it is the opinion of the House of Delegates that the right to practice in one state should be extended to include the right to practice medicine in any part of the United States.

"Be It Further Resolved that a copy of this resolution be sent to the proper officials of all medical societies, and to national and quasi-national medical associations, and that the American Medical Association be especially urged to perfect a plan by which interstate medical practice be made as easy as interstate commerce."

THE THERAPY OF ADRENALIN.

The important position of Adrenalin in the materia medica is undoubtedly attributable to the vast amount of scientific work that has been done in connection with the product, to say nothing of the marvelous array of clinical facts that have been accumulated and now constitute the basis of our knowledge of its therapy.

This thought is suggested by the appearance in our advertising section, this month, of a unique announcement from Parke, Davis & Co., entitled "Adrenalin in Medicine," which every medical practitioner should read. It deals with the physiological action of the medullary suprarenal principle and reflects a clear light upon a subject concerning which much misinformation persists, even in medical circles. This, we understand, is the first of a series of short essays that will have to do with the scientific aspect of the subject rather than its commercial features. Others will include discussions of "The Treatment of Asthma"; "The Treatment of Shock and Collapse"; "The Treatment of Hemorrhage"; "Adrenalin in Combination with Local Anesthetics", "Adrenalin in Organo-Therapy."

These topics appeal strongly to the progressive physician who seeks to be well informed. New facts are being constantly developed in the domain of endocrinology; and as this series of concise "talks" will cover the field pretty thoroughly, in so far as Adrenalin is concerned, it will be well worth while to review them.

COUNCIL ON PHARMACY AND CHEMISTRY
AMERICAN MEDICAL ASSOCIATION

(The following articles produced by advertisers in this Journal have been accepted for inclusion with New and Non-Official Remedies by the Council on Pharmacy and Chemistry.)

ARTICLES ACCEPTED.

During July the following articles of our advertisers have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies:

Armour & Co.: Tablets, Anterior Pituitary, 5 grains; Tablets, Ovarian Substance, 5 grains.

Hynson, Westcott & Dunning: Lutein, Sterile Solution of Ovarian Residue—H. W. D.; Tablets, Ovarian Residue—H. W. D.

NEW AND NONOFFICIAL REMEDIES.

(Abridged)

Whole Ovary—H. W. D. The ovarian gland of the cow, including the corpora lutea, freed from extraneous matter and dried in vacuo. For actions and uses, see general article on Ovary (New and Nonofficial Remedies, 1920, p. 201). Whole Ovary—H. W. D. is sold in the form of 5 grain tablets only. Hynson, Westcott & Dunning, Baltimore.

Benzyl Benzoate-Abbott. A brand of benzyl benzoate (see New and Nonofficial Remedies, 1920, p. 49), complying with the N. N. R. standards. It is also supplied in the form of Elixir Benzyl Benzoate-Abbott and Benzyl Benzoate Tablets-Abbott 2 grains. Abbott Laboratories, Chicago.

Ampules Ven-Iron Cacodylate. Each ampule contains 0.03 gm. (half grain) of ferric cacodylate (see New and Nonofficial Remedies, 1920, p. 44). Intra Products Co., Denver, Colo.

Ampules Ven-Iron Cacodylate. Each ampule contains 0.03 gm. (half grain) or ferric cacodylate (see New and Nonofficial Remedies, 1920, p. 44) in physiological solution of sodium chloride. Intra Products Co., Denver, Colo. (Jour. A. M. A., July 3, 1920, p. 35).

PROPAGANDA FOR REFORM.

Acriflavine G H and Proflavine G H. Acriflavine and proflavine have been admitted to New and Nonofficial Remedies. However, the products sold by the Heyl Laboratories as "Acriflavine G H" and "Proflavine G. H" have not been accepted for New and Nonofficial Remedies because (1) their quality did not conform to the Council's standards and (2) in the advertising issued for these drugs the manufacturer failed to give the unfavorable as well as the favorable clinical reports that have been published (Jour. A. M. A., July 3, 1920, p. 51).

Antidote for Snake Poison. No Anti-Venom for snake poison has been accepted for New and Nonofficial Remedies. Experiments looking toward the production of anti-venom for snake poisoning seems to have met with some success, but the use of these products in therapy is still in the experimental stage. In general it has been shown that an anti-venom prepared for one species is not always effective when used against the venom of another species (Jour. A. M. A., July 3, 1920, p. 51).

Products of the American Organotherapy Co. Dr. Alfred A. Lowenthal has announced a "Post Graduate Course of Lectures and Clinics" to the physicians of Chicago, Denver, St. Louis, Columbus, etc.—and incidentally brings to the attention of the medical world the alleged virtues of the products of the American Organotherapy Company. A few years ago, the American Animal Therapy Company of Chicago put out such products as Lymphoid Compound (Lowenthal), Ova Mammoid (Lowenthal), and Prostoid (Lowenthal), and these products were exploited to the public (Jour. A. M. A., July 3, 1920, p. 49).

Echitone and Echinacea. A circular entitled "Skin Lesions of Unknown and Uncertain Origin," sent out by Strong, Cobb & Co., is devoted to the exploitation of "Echitone," stated to contain echinacea, blue flag and pansy. Several years ago, the Council on Pharmacy and Chemistry examined "Echitone" and rejected the product because unwarranted therapeutic claims were made for it and for other reasons. The drug echinacea has been claimed to be a "specific" for rattlesnake bites, syphilis, typhoid, malaria, diphtheria and hydrophobia. It has also been credited by enthusiasts with curative effect in tuberculosis, tetanus and exophthalmic goiter, and with the power of retarding the development of cancer. The Council on Pharmacy and Chemistry examined the claims made for this drug and reported that there was no reliable evidence in substantiation of the claims made for it. Echinacea is one of the many vegetable drugs introduced by the eclectics without a rational basis for their use (Jour. A. M. A., July 17, 1920, p. 193).

Na Versus K. Advantages of sodium over potassium salts: (1) **Rational therapeutics.** Sodium compounds are as efficient as, in many instances better than, the corresponding potassium compounds. Potassium is more toxic. (2) **National aid.** Accustom yourself to use sodium, an abundant natural product of the United States. The home of potassium is Germany, which, to its own commercial gain, popularized potassium drugs. (3) **Price.** Sodium salts are cheaper. Potassium is, relatively speaking, a foreign substance in the body. Potassium and sodium salts are prescribed mainly for the effects of the radicle they carry. It is illogical, therefore, to administer potassium acetate or potassium bromid when sodium acetate or sodium bromid can more readily be given. In spite of the smaller demand, sodium salts are on the whole cheaper than potassium salts and, should the medical profession prescribe the sodium more generally, all of those that might be used in medicine would be less expensive than the corresponding potassium salt (Jour. A. M. A., July 17, 1920, p. 192).

Boracetine. Boracetine (F. E. Barr & Co., Chicago) in 1919 was heralded as "The Guardian of Health." It was claimed to be "an *all-around* antiseptic, especially good for pyhorrea, sore gums, sore throat, etc., excellent for cuts, bruises, insect bites, skin eruptions and, in fact, any condition when an efficient healing agent and germ destroyer is needed." It was also recommended to "get rid of that 'dark brown taste'." Indirectly Boracetine was also claimed to be a preventive of consumption, scarlet fever, diphtheria, etc. From the analysis made in the A. M. A. Chemical Laboratory it appears that Boracetine is nothing more wonderful than *Liquor Antisepticus, N. F.*, with a dash of formaldehyd. The more "patent medicines" are analyzed the more obvious becomes the commercial wisdom of the nostrum interests to fighting formula disclosure. Secrecy and mystery are the "back bone" of the "patent medicine" industry (Jour. A. M. A., July 17, 1920, p. 192).

Chaulmoogra Oil in Leprosy. The results obtained with the treatment of lepers at the leprosy investigation station in Kalihi, Hawaii, with the ethyl esters from chaulmoogra oil have been encouraging. It will require, however, some time to determine whether a real cure for leprosy has been discovered (Jour. A. M. A., July 24, 1920, p. 263).

Chemotherapy of Tuberculosis and the "Cerium Salt Treatment." Koch studied the effects of many chemical substances, including a gold cyanid compound, on the growth of the tubercle bacillus in cultures, and concluded that all these substances remained completely inactive when tested upon the tuberculous animal. Compounds related to guaiacol and creosote came to have a widespread reputation as tuberculocidal agents without anyone's taking the trouble to ascertain definitely whether they really had any particular capacity to injure tubercle bacilli in the test tube, the tuberculous animal or

the consumptive patient, although the German manufacturing chemists provided innumerable proprietary derivatives of these drugs. Some time before the war, a "complex lecithin-copper compound" of unannounced composition was put forward in Germany. Another copper cure came from Tokyo, "cyanocuprol" of Koga. Other copper compounds, such as copper arsphenamine, also were brought out. But none of these copper compounds have settled the tuberculosis problem. Recently, newspapers have given publicity to the treatment of tuberculosis by the so-called cerium earth salts in France. It appears that a few observations have been made on the inhibitory action on the growth of tubercle bacilli of salts of cerium and some other rare earth metals. The inhibitory action was less than that observed in the past for these chemical substances, and there is no record of experiments to determine their effect on experimental tuberculosis. Possible cerium earth salts help the tuberculosis; the evidence so far presented, however, is nothing to get excited about (Jour. A. M. A., July 24, 1920, p. 246).

More Misbranded Drug Products and Nostrums. The following products have been the subject of prosecution by the federal authorities under the Food and Drugs Act: Seelye's Wasa-Tusa, Dr. Seelye's Compound Extract of Sarsaparilla, Seelye's Laxa-Tena, Seelye's Cough and La Grippe Remedy and Seelye's Fluorilla Compound (A. B. Seelye Medical Company) were misbranded because the therapeutic claims were unwarranted. Aspirin Tablets (Verandah Chemical Company) were misbranded because they contained no acetylsalicylic acid (Aspirin). Dr. Grove's Anodyne for Infants (Smith, Klein & French Company) was misbranded because the therapeutic claims were unwarranted and because the carton failed to contain a statement of the quantity and proportion of morphine and alcohol contained therein. Cacapon Healing Water (Capon Springs Company) was adulterated in that it consisted in part of a filthy, decomposed and putrid animal and vegetable substance and misbranded because the curative claims were unwarranted. Seawright Water (Seawright Magnesian Lithia Spring Company) was adulterated in that it consisted in part of a filthy and decomposed vegetable substance (Jour. A. M. A., July 24, 1920, p. 261).

Benzyl Benzoate. The chemical properties of benzyl benzoate have been known for years. Its therapeutic properties as an antispasmodic have been known only a short time. Before this new addition to our materia medica can be given thorough clinical trial, it is necessary that the products be of a quality sufficiently pure for medicinal use. For the physician's protection, as well as for an aid to the manufacturer, the A. M. A. Chemical Laboratory, at the request of the Council on Pharmacy and Chemistry has elaborated purity standards. It has also examined the market supply and found that, on the whole, the nonproprietary medicinal brands are of a satisfactory grade for clinical use (Jour. A. M. A., July 31, 1920, p. 335).

A Shotgun Mixture. It is stated that the following prescription is used with success in "intestinal cases of a medical type"; zinc sulphocarbolate, 0.5; bismuth subnitrate, 15.0; bismuth betanaphtholate, 8.0; camphorated tincture of opium, 15.0; syrup of acacia, 30.0; elixir lactopeptine, to make 130.0. In this, the chief active ingredients are bismuth subnitrate and camphorated tincture of opium. The zinc sulphocarbolate is superfluous. The action of the bismuth betanaphtholate probably does not differ from that of bismuth subnitrate, and cinnamon water or simple elixir might as well be substituted for elixir lactopeptine (Jour. A. M. A., July 31, 1920, p. 335).

TWO GOOD LOCATIONS for general practitioner—$4000.00 or $5000.00 business. Near surgical center. Address "C. C.", care State Medical Journal. 6-20

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